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(54) **APPARATUS FOR DETERMINING FOR THE COMPRESSION OF AN HOA DATA FRAME REPRESENTATION A LOWEST INTEGER NUMBER OF BITS REQUIRED FOR REPRESENTING NON-DIFFERENTIAL GAIN VALUES**

(57) When compressing an HOA data frame representation, a gain control (15, 151) is applied for each channel signal before it is perceptually encoded (16). The gain values are transferred in a differential manner as side information. However, for starting decoding of such streamed compressed HOA data frame representation absolute gain values are required, which should be coded with a minimum number of bits. For determining such lowest integer number (β_e) of bits the HOA data frame

representation ($\mathbf{C}(k)$) is rendered in spatial domain to virtual loudspeaker signals lying on a unit sphere, followed by normalisation of the HOA data frame representation ($\mathbf{C}(k)$). Then the lowest integer number of bits is set to

$$\beta_e = \left\lceil \log_2 \left(\left\lceil \log_2 \left(\sqrt{K_{\text{MAX}}} \cdot 0 \right) \right\rceil + 1 \right) \right\rceil .$$

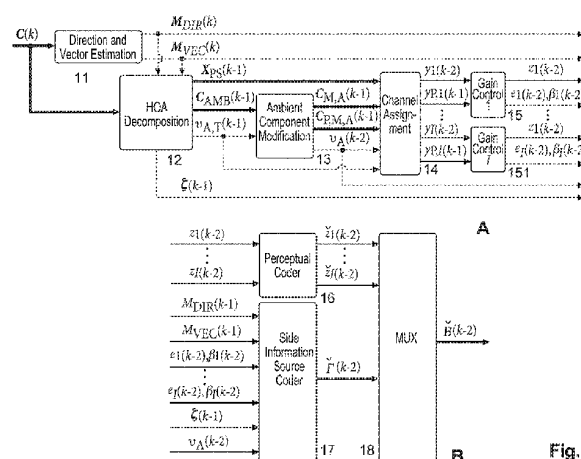


Fig. 1



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			TECHNICAL FIELDS SEARCHED (IPC)
			H04S G10L
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 14 May 2024	Examiner Righetti, Marco
CATEGORY OF CITED DOCUMENTS			
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

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